IN THE CLAIMS-

Claims 1-55 (canceled)

Claim 56 (withdrawn)

Claim 57 (canceled)

Claims 58-60 (withdrawn)

Claims 61-66 (canceled)

Claim 67 (previously added): A biomedical biocompatible polyurethane based on (i) a diisocyanate linked polyester polymer component and (ii) a diol component, said polyurethane having the formula $+A-B-C-B+_n$ wherein A denotes said polyester component, B denotes said diisocyanate moiety, C denotes said diol component, n denotes the number of recurring units, and wherein at least 90% of the diol components, C, have the same block length, wherein the polyester component is a random copolyester component and is a copolyester component having at least two of a moiety selected from the group consisting of lactide, glycolide, trimethylene carbonate and ε-caprolactone.

Claim 68 (canceled)

Claim 69 (previously added): A biomedical biocompatible polyurethane produced according to a process comprising the steps of (i) reacting the polyester with an isocyanate

end-capped diol component in order to form a prepolymer, the ratio of isocyanate end-groups to polyester end-groups being at least 2:1, and then (ii) reacting the resulting prepolymer with water.

Claim 70 (previously added): A biomedical biocompatible polyurethane according to claim 69, based on a copolyester of lactide and ε-caprolactone containing 5 to 95% of units of lactide and 5 to 95% of units of ε-caprolactone, based on the total number of monomeric units in the polymer.

Claims 71-78 (canceled)

Claim 79 (previously added): A biomedical biocompatible polyurethane based on (i) a diisocyanate linked polyester polymer component and (ii) a diol component, said polyurethane having the formula $+A-B-C-B+_n$ wherein A denotes said polyester component, B denotes said diisocyanate moiety, C denotes said diol component, n denotes the number of recurring units, and wherein at least 90% of the diol components, C, have the same block length, comprising from 40 up to 60% of units of lactide, based on the total number of monomeric units in the polymer.

Claim 80 (previously added): A biomedical biocompatible polyurethane based on (i) a diisocyanate linked polyester polymer component and (ii) a diol component, said polyurethane having the formula $+A-B-C-B+_n$ wherein A denotes said polyester component, B denotes said diisocyanate moiety, C denotes said diol component, n

denotes the number of recurring units, and wherein at least 90% of the diol components, C, have the same block length, comprising from 40 up to 60% of units of ε-caprolactone, based on the total number of monomeric units in the polymer.

Claims 81-82 (canceled)

Claim 83 (withdrawn)

Claims 84-85 (canceled)

Claim 86 (new): A process for the preparation of a biomedical biocompatible polyurethane based on (i) a diisocyanate linked polyester polymer component and (ii) a diol component, said polyurethane having the formula $+A-B-C-B+_n$ wherein A denotes said polyester component, B denotes said diisocyanate moiety, C denotes said diol component, n denotes the number of recurring units, and wherein at least 90% of the diol components, C, have the same block length, comprising the steps of (i) reacting at least two moles of a diisocyanate with one mole of a diol selected from the group consisting of 1,4-butanediol, 1,6-hexanediol, diethyleneglycol and the reaction product of two molecules of said diol with the diisocyanate to form a first reaction product and (ii) reacting a polyester with said first reaction product.

Claim 87 (new): A biomedical biocompatible polyurethane based on (i) a diisocyanate linked polyester polymer component and (ii) a diol component, said polyurethane

having the formula $\{A-B-C-B\}_n$ wherein A denotes said polyester component, B denotes said diisocyanate moiety, C denotes said diol component, n denotes the number of recurring units, and wherein at least 90% of the diol components, C, have the same block length.

Claim 88 (new): A polyurethane according to claim 87 wherein B is a 1,4-butane diisocyanate component.

Claim 89 (new): A polyurethane according to claim 87 where C is selected from the group consisting of butanediol components, hexanediol components, diethylene glycol components and reaction products of the diisocyanate moiety and two molecules of the diol component.

Claim 90 (new): A biomedical biocompatible polyurethane according to claim 87 consisting of repeating units of the following formula:

$$\{C(O)-NH-R_1-NH-C(O)-O-D-O-C(O)-NH-R_1-NH-C(O)-O-E-O\}_n,$$

wherein R_1 is an n-butylene moiety, D is a polyester moiety, E is an n-butylene diol, an n-hexylene diol or a diethylene glycol based moiety and n indicates the number of repeating units.

Claim 91 (new): A biomedical biocompatible polyurethane according to claim 90 wherein E is selected from the group consisting of ethylene, n-butylene, n-hexylene, $-CH_2-CH_2-O-CH_2-CH_2-$ and -XYX-, wherein X is selected from the group consisting of an ethylene glycol-based moiety, an n-butylene glycol-based moiety, an n-hexylene glycol-based moiety and a diethylene glycol-based moiety and Y is

a 1,4-butane-diisocyanate-based moiety resulting from the reaction of 1,4-butane diisocyanate with a diol selected from the group consisting of ethylene glycol, n-butylene glycol, n-hexylene glycol and diethylene glycol, with the mole ratio of glycol:diisocyanate being 2:1.

Claim 92 (new): A biomedical biocompatible polyurethane according to claim 87, wherein the polyester component is based on a polyester prepared by ring opening polymerization.

Claim 93 (new): A biomedical biocompatible polyurethane according to claim 87, wherein the polyester component is based on (i) at least one carboxylic acid selected from the group consisting of lactic acid and succinic acid and (ii) at least one diol selected from the group consisting of ethylene glycol, 1,4-butanediol, 1,6-hexanediol and diethylene glycol.

Claim 94 (new): A process for the preparation of a biomedical biocompatible polyurethane defined according to claim 87 comprising the steps of (i) reacting at least 2 moles of a diisocyanate with 1 mole of a polyester to form a first reaction product and (ii) reacting a diol selected from the group consisting of 1,4-butanediol, 1,6-hexanediol, diethylene-glycol and the reaction product of two molecules of said diol with the diisocyanate with said first reaction product.

Claim 95 (new): An implant constructed from at least one biomedical biocompatible polyurethane defined according to claim 87 having a porosity of 50 to 99 vol.%.

Claim 96 (new): A method for reconstruction of at least one meniscal lesion comprising the step of effecting an adhesive implant to meniscal tissue having at least one of said lesions of a meniscus-reconstructing quantity at a meniscus-reconstructing rate of at least one polyurethane defined according to claim 87 for a fibrocartilage induction time of from 10 up to 30 weeks.

Claim 97 (new): A biomedical biocompatible polyurethane according to claim 87 having a phase separated morphology, comprising (i) soft segments selected from the group consisting of (a) polyester components, (b) polyether components and (c) polyester-polyether components and (ii) hard segments, said hard segments consisting of diol components having a uniform bock-length, and wherein (A) the diol component and (B) at least one of the polyester, the polyether or the polyester-polyether components have been linked to a diisocyanate component by means of reaction thereof with a diisocyanate.

Claim 98 (new): A biomedical biocompatible polyurethane according to claim 87, wherein the block-length is the same for at least 98% of the diol units.

Claim 99 (new): A biomedical biocompatible polyurethane according to claim 87, wherein the diisocyanate is an aliphatic diisocyanate.

Claim 100 (new): A biomedical biocompatible polyurethane according to claim 87 wherein the diisocyanate-linked

polyester component is a 1,4-butane diisocyanate-linked polyester component.

Claim 101 (new): A process for preparing a urethane polymer according to claim 87 comprising the steps of:

i. admixing equimolar quantities of L-lactide and ε-caprolactone in the presence of a stannous octoate catalyst and a butanediol initiator thereby forming a L-lactide-ε-caprolactone prepolymer;

ii. admixing butanediol with a six-fold excess of butane diisocyanate thereby forming an isocyanate-terminated urethane block;

iii. dissolving the L-lactide-ε-caprolactone prepolymer in dimethyl sulfoxide to form a first solution;

iv. dissolving the isocyanate-terminated block in dimethyl sulfoxide to form a second solution;

v. admixing the first solution with the second solution to form a polyurethane reaction mass;

vi. recovering the resulting urethane polymer from the reaction mass.